

REMARKS

Prior to this communication, claims 1-57 are pending in the application. In the pending Office action, claims 1-57 are rejected. By this amendment, Applicant is amending claims 1-3, 6-8, 38, 41, 47, 49, 51, 53 and 56, and canceling claims 39, 55, and 57. Reexamination and reconsideration of claims 1-38, 40-54, and 56 in view of the amendment and remarks contained herein are respectfully requested.

Claims 1-57 stand rejected under 35 U.S.C. § 112, ¶ 2, as being incomplete for omitting essential structural cooperative elements, such omission amounting to a gap between the necessary structural connections, citing MPEP § 2172.01. Specifically, the Office asserts claims 1, 6, 24, 29, 38, and 47 recite “a circuit clamp,” “a scalar,” “a current sensor,” and “decision logic” without recitation of any clear structural relationship or connection to particularly point out and distinctly claim the subject matter that allow one of ordinary skill in the art to be able to understand as how these recited elements are connected as shown in figures 2-6 of the invention. The claims further recite “a Zener diode”, “a timer,” “a triac,” and “a capacitor” without the recitation of any structural relationship with the other recited elements is considered confusing, vague, and indefinite.

Applicant traverses the Office’s assertion that the claims fail to interrelate essential elements of the invention as defined by Applicant in Figs. 2-6 of the invention. Figs. 2-6 disclose only one embodiment of the invention. However, as Applicant made clear numerous times in the specification, the invention is not limited to the embodiment shown in Figs. 2-6. For example, please refer to ¶s [0015], [0016], [0017], [0018], [0020], among numerous other paragraphs. As stated in ¶ [0042], “The embodiments described [in the description] and illustrated in the figures are presented by way of example only and are not intended as a limitation upon the concepts and principles of the invention. Various features and advantages of the invention are set forth in the [] claims.” Therefore, nothing shown in Figs. 1-6 is essential to the invention. The invention set forth in the claims must be presumed to be that which applicant regards as his invention. See MPEP 2172, I (“A rejection based on the failure to satisfy this requirement is appropriate only where applicant has stated, somewhere other than in the application as filed, that the invention is something different from what is defined by the claims. In other words, the invention set forth in the claims must be presumed, in the absence of

evidence to the contrary, to be that which applicants regard as their invention.”) Accordingly, Applicant requests the Office to withdraw the rejection of claims 1-38, 40-54, and 56 under 35 U.S.C. § 112, ¶ 2.

Applicant notes that claims 24 and 29 do not recite any of the quoted phrases of point 3 of the detailed action.

For claims 1 and 6, Applicant amended these claims to make clear that the circuit clamp (examples of which are described at, for example, ¶s [0021]-[0024]) recited in these claims is connectable to the power source and connected to the controller. Applicant asserts no new matter was added.

Claims 2, 3, 7, and 8 were amended to change the phrase “power supply” to “circuit clamp.” Applicant asserts no new matter was added.

For claims 38 and 41, Applicant amended the spelling of “scaler” to “scalar.” Also, applicant incorporated the limitations of claim 39 into claim 38. Applicant asserts no new matter was added.

For claim 47, Applicant incorporated the limitations expressly drafted in claims 55 and 57 into claim 47. Applicant amended claims 49, 51, 53, and 56 to correct antecedent basis errors as a result of the amendments to claim 47.

Claims 1-57 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,652,912 (Bordonaro), or U.S. Patent No. 5,592,062 (Bach), or U.S. Patent No. 5,296,795 (Droppss).

35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The burden is on the patent Office to show that a patent application does not include patentable subject matter. The Office can reject a patent application as being anticipated by a reference under 35 U.S.C. § 102. However, “It is incumbent upon the examiner to identify where each

and every facet of the claimed invention is disclosed in the applied reference.” (emphasis added) *Ex Parte Levy*, 17 USPQ2d 1461, 11462 (Bd. Pat. App. & Int’f 1990). *See, also*, M.P.E.P. § 2131.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). . . . “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). . . .

(Emphasis added).

As just shown, the Office is obligated to show how the cited references teach or suggest all the claim limitations. Applicant asserts that the Office has not met its obligations. Instead, the Office rejected 57 claims under 35 U.S.C. § 102(b) as being anticipated by three separate references in 13 lines (less than $\frac{1}{2}$ of 1 page). The Office has not discussed how each and every limitation of claims 1-57 are disclosed in the three references. As an example, for claim 29, the Office does not show how the references teach a method of controlling an electric machine with power from a power source, the method including, among other things, “preventing current through the electronic switch when the monitored current flares.” Instead, the Office only provides a three-paragraph generalization of what the Bordonaro, Bach, and Dropps references arguably disclose, none of which relates to claim 29. By generalizing what the prior art discloses and not showing where the prior art teaches the claimed invention, the Office has failed its duty to demonstrate that the claimed subject is anticipated by the Bordonaro, Bach, and Dropps references, has erroneously rejected the claims, and has erroneously required Applicant to prove his invention is patentable.

For the above reasons, Applicant traverses the Office’s rejections and asserts that the Office needs to provide a more detailed examination of the claimed invention, including more pointed citations for all the claim limitations within the cited reference(s). Without meeting this burden, the Office must allow the application, which Applicant requests.

Despite the above, Applicant has carefully reviewed each of the references in detail and will discuss some of the claims below.

Claim 1 recites an electronic switch assembly, and claim 6 recites an electric machine connectable to a power supply and comprising an electronic switch assembly connected in a series relationship with a winding. The electronic switch assembly includes an electronic switch, a controller connected to the electronic switch to control the electronic switch, and a power supply connectable to the power source and connected to the controller. The power supply is configured to receive power from the power source and controllably power the controller. The power supply includes a circuit clamp connectable to the power source and connected to the controller. The circuit clamp obstructs power from powering the controller when the voltage of the received power is greater than a threshold.

As explained at ¶ [0021] of the Application, an electronic device or machine can be inconspicuously connected to an improper supply voltage under some circumstances. For example, a motor manufacturer may design a motor for dual voltage operation (e.g., 115 or 230 VAC operation) to keep the number of different motor models produced to a minimum. A common mistake by technicians is to hook a 115 VAC configured motor to a 230 VAC power line. When power is applied to the motor having an electronic switch of the prior art, the electronic switch will perform as normal and the motor will start. When the switch circuit turns off the start winding, however, the electronic switch will need to block a large voltage (e.g., 1200 V), thereby destroying the electronic switch and damaging the motor. The claimed invention, among other things, can keep the motor from starting, and thus, the electronic switch is required to block a much relatively smaller voltage (e.g., 350 V). Because the motor did not start, the clamp circuit has the additional benefit of alerting the installer that something is wrong.

The cited prior art of record does not teach or suggest, among other things, an electronic switch including a power supply having a circuit clamp, wherein the circuit clamp is connectable to the power source and connected to the controller and obstructs power from powering the controller when the voltage of the received power is greater than a threshold. The Bordonaro reference includes a Zener diode ZD1 (which was cited by the office) connected across the rate control circuit. The Zener diode ZD1 is selected so as to order the maximum pulse repetition

rate when the magnitude of the error signal exceeds a preselected level. Col. 4, lines 31-38. Thus, the Zener diode ZD1 does not obstruct power from powering the controller when the voltage of the received power is greater than a threshold. The clamp circuits 20 and 22 (which were also cited by the office) apply inputs to drive circuits 32 and 34, respectively. The absence or presence of a clamp input to drive circuits 32 and 34 determines whether the drive circuits 32 and 34 will accept or reject the drive control pulses provided by the pulse generation circuitry 26. Col. 2, lines 51-71. Referring to Fig. 2, the clamp circuits 20 and 22 (i.e., transistors Q10, Q17) control relays 44 and 46, respectively. The clamp circuits 20 and 22 provide inputs (via relays 44 and 46) to the drive circuits 32 and 34, respectively; but do not obstruct power from powering the drive circuits when the voltage of the received power is greater than a threshold. Therefore, the Bordonaro reference does not teach or suggest claims 1 or 6.

The Bach reference discloses a controller for an AC induction motor. As shown in Fig. 1, the Bach reference discloses an electronic switch 162, a controller 1000, a voltage crossing circuit 2000, and a power supply 3000. The voltage crossing circuit, which was cited by the Office as a circuit clamp, provides an output indicating the zero crossing events of the supply voltage. The voltage crossing circuit does not obstruct power from powering the controller when the voltage of the received power is greater than a threshold. Therefore, the Bordonaro reference does not teach or suggest claims 1 or 6.

The Dropps reference discloses a method and apparatus for starting capacitive, start induction run, and capacitive start, capacitive run electric motors. The Dropps reference discloses a motor 14, a switch T1, a Zener diode Z1, a zero cross detect 42, a pulse generator 44, and a controller. The Office asserts Zener diode Z1 and the capacitor C2 form a clamp circuit. However, Zener diode Z1 and the capacitor C2 does not obstruct power from powering the controller when the voltage of the received power is greater than a threshold. Therefore, the Dropps reference does not teach or suggest claims 1 or 6.

Accordingly, claims 1 and 6 are allowable, and Applicant requests indication of the same.

Claims 2-5 and 7-23 depend, either directly or indirectly, from one of claims 1 and 6, and consequently, include patentable subject matter for the reasons set forth above with respect to claims 1 and 6. Accordingly, claims 2-5 and 7-23 are allowable, and Applicant requests

indication of the same. Additionally, claims 2-5 and 7-23 include additional limitations that are believed to be separately allowable when combined with the claims from which they depend.

Claim 24 specifies a method of controlling an electric machine with power from a power source. The electric machine includes a rotor, a winding, and an electronic switch assembly electrically connected to the winding. The electronic switch assembly includes an electronic switch, a controller connected to the electronic switch to control the electronic switch, and a power supply connected to the power source and the controller. The method includes the acts of connecting the electronic switch assembly to the power source, powering the power supply, determining at the power supply whether the voltage of the power is greater than a value, and obstructing the power from powering a controller of the electronic switch assembly when the voltage is greater than the value. Applicant asserts that the cited prior art does not teach or suggest, among other things, determining at the power supply whether the voltage of the power is greater than a value, and obstructing the power from powering the controller when the voltage is greater than the value. If the Office disagrees, then Applicant requests a more detailed analysis of the cited references in order for Applicant to respond.

Claims 25-28 depend, either directly or indirectly, from claim 24, and consequently, include patentable subject matter for the reasons set forth above with respect to claim 24. Accordingly, claims 25-28 are allowable, and Applicant requests indication of the same. Additionally, claims 25-28 include additional limitations that are believed to be separately allowable when combined with the claims from which they depend.

Claim 29 specifies a method of controlling an electric machine with power from a power source. The electric machine includes a rotor, a winding, and a switch assembly electrically connected in a series relationship with the winding. The switch assembly includes a switch and a controller connect to the electronic switch to control the electronic switch. The method includes the acts of connecting the motor to the power source, allowing current through the electronic switch, monitoring the current, and preventing current through the electronic switch when the monitored current flares. Applicant asserts that the cited prior art does not teach or suggest, among other things, monitoring the current, and preventing current through the electronic switch

when the monitored current flares. If the Office disagrees, then Applicant requests a more detailed analysis of the cited references in order for Applicant to respond.

Before proceeding further, Applicant notes that the Dropps patent monitors the auxilliary voltage of the auxiliary winding. When the auxiliary voltage reaches a calibratable cut-out voltage the triac is disabled until the auxiliary winding voltage decreases to a level below a calibratable cut-in voltage. See Abstract. However, monitoring the auxilliary voltage of the auxiliary winding is not the same as monitoring the current through the electronic switch. As is known in the motor art, the current through an auxiliary winding current of a motor is not proportionally related to the voltage applied to the auxiliary winding circuit. Therefore, the Dropps reference does not explicitly teach or inherently suggest monitoring the circuit through the electronic switch. It is also noted that the Dropps reference does not teach or suggest preventing current through the electronic switch when the monitored current flares. See, for example, ¶ [0036] of the Application for a discussion regarding current flare.

Claims 30-37 depend, either directly or indirectly, from claim 29, and consequently, include patentable subject matter for the reasons set forth above with respect to claim 29. Accordingly, claims 30-37 are allowable, and Applicant requests indication of the same. Additionally, claims 30-37 include additional limitations that are believed to be separately allowable when combined with the claims from which they depend.

Amended claim 38 recites an electric machine connectable to a power supply. The electric machine includes a rotor, a winding, and a switch assembly connected in a series relationship with the winding. The switch assembly includes a switch, and a controller connected to the switch to control the switch. The controller includes a current sensor that senses a current through the switch, a scalar that generates a threshold based on the sensed current, and decision logic that controls the switch based on the sensed current and the threshold. Applicant asserts that the cited prior art does not teach or suggest, among other things, a controller comprising a current sensor that senses a current through the switch, a scalar that generates a threshold based on the sensed current, and decision logic that controls the switch based on the sensed current and the threshold. Applicant also asserts that the cited prior art does not teach or suggest that the scalar generates a threshold having a relation to the sensed current

such that the decision logic detects when the sensed current flares. If the Office disagrees, then Applicant requests a more detailed analysis of the cited references in order for Applicant to respond.

Claims 39-46 depend, either directly or indirectly, from claim 38, and consequently, include patentable subject matter for the reasons set forth above with respect to claim 38. Accordingly, claims 39-46 are allowable, and Applicant requests indication of the same. Additionally, claims 39-46 include additional limitations that are believed to be separately allowable when combined with the claims from which they depend.

Amended claim 47 recites an electric machine connectable to a power supply. The electric machine comprises a rotor, a winding, and an electronic switch assembly electrically connected in a series relationship with the winding. The electronic switch assembly includes an electronic switch; a circuit control including a current sensor that senses a current through the switch; and decision logic connected to the generator, the circuit control, and the electronic switch. The circuit control provides a second signal based on the sensed current. The decision logic receives the first and second signals and generates a control signal that selectively controls the electronic switch based on the first and second signals. Applicant asserts the cited prior art does not teach or suggest, among other things, decision logic connected to the generator, the circuit control, and the electronic switch, where the decision logic receives the first and second signals and generates a control signal that selectively controls the electronic switch based on the first and second signals, wherein the second signal is based on a sensed current through the electronic switch. If the Office disagrees, then Applicant requests a more detailed analysis of the cited references in order for Applicant to respond.

Claims 48-57 depend, either directly or indirectly, from claim 47, and consequently, include patentable subject matter for the reasons set forth above with respect to claim 47. Accordingly, claims 48-57 are allowable, and Applicant requests indication of the same. Additionally, claims 48-57 include additional limitations that are believed to be separately allowable when combined with the claims from which they depend.

CONCLUSION

Entry of the Amendment and allowance of claims 1-38, 40-54, and 56 are respectfully requested. The undersigned is available for telephone consultation at any time during normal business hours.

Respectfully submitted,



Sheldon L. Wolfe
Reg. No. 43,996

Docket No. 010121-9928
Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-4108
(262) 956-6560

T:\clienta\010121\9928\F0129266.1